New Jersey Space Grant Consortium
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PROGRAM DESCRIPTION

The National Space Grant College and Fellowship Program consists of 52 state-based, university-led Space Grant Consortia in each of the 50 states plus the District of Columbia and the Commonwealth of Puerto Rico. Annually, each consortium receives funds to develop and implement student fellowships and scholarships programs; interdisciplinary space-related research infrastructure, education, and public service programs; and cooperative initiatives with industry, research laboratories, and state, local, and other governments. Space Grant operates at the intersection of NASA's interest as implemented by alignment with the Mission Directorates and the state's interests. Although it is primarily a higher education program, Space Grant programs encompass the entire length of the education pipeline, including elementary/secondary and informal education. The New Jersey Space Grant Consortium is a Program Grant Consortium funded at a level of $660,000 ($430,000 base + $230,000 augmentation) for fiscal year 2010.

PROGRAM GOALS

Goal 1: To develop a scholarship and fellowship program that provides graduate as well as undergraduate research and educational opportunities to a diverse spectrum of New Jersey students in the disciplines of science, math, technology, and engineering, with emphasis on aerospace, and with research opportunities at NASA centers.

- Objective 1.1: $180,000 will be awarded in fellowships to N.J. students in STEM fields and in a way that reflects the diversity characteristics of N.J. college students.
- Objective 1.2: $45,000 will be awarded through research fellowships to graduate students, through the NASA/NJSGC Graduate Student Fellowship Program.
- Objective 1.3: $27,000 will be awarded as research fellowships to undergraduate New Jersey students to conduct research at a NASA Center or at the NASA Academy.
- Objective 1.4: $60,000 will be awarded as Summer Fellowships to undergraduates in N.J. to conduct research at a NJSGC member university or at an approved industrial corporation.
- Objective 1.5: $48,000 will be awarded as Academic Year Fellowships to New Jersey undergraduate students in STEM. Sixteen $2,000 fellowships will be awarded.
- Objective 1.6: At least 90% of the summer fellowship students and graduate research fellows will present their research at the NJSGC fellowship conference, usually held in late summer.

- Objective 1.7: All of the fellowship recipients will be subject to longitudinal tracking. At least 80% of award recipients will respond to the longitudinal tracking survey.
- Objective 1.8: Based on national statistics on minority enrollment in N.J. colleges, at least 28% of all student awards and other direct support will be awarded to students from underrepresented minorities. At least 45% of all award recipients will be female students and faculty.

Goal 2: To promote research activities in New Jersey that are relevant to NASA and New Jersey industry, to build research networks and to create pipelines from research to industrial development, and support STEM workforce development. To support junior faculty and graduate students in research, to increase diversity among researchers and graduate students.

- Objective 2.1: $50,000 will be used to award two research grants to junior faculty in New Jersey universities to enable Industry-University Research (IUR) collaboration, including multi-disciplinary initiatives related to aeronautics, space science, and aerospace technology.
- Objective 2.2: $2,600 will be awarded for Support of New Jersey Research Centers to collaborate with their activities in aerospace research and publication.
- Objective 2.3: $2,400 will be provided for Travel Support to students (undergraduate and graduate) and faculty in New Jersey universities to attend scientific conferences and technical meetings.
- Objective 2.4: The Mini Grants Program will provide $54,000 in research grants to junior faculty in STEM and aerospace in New Jersey universities.

Goal 3: To produce diverse and well-educated college graduates in STEM fields who will be inspired by their NJSGC experience and who will be motivated to pursue careers in STEM and aerospace, as well as graduate education, thus creating a pipeline to the STEM workforce. To nurture interdisciplinary approaches and to develop higher education networks.

- Objective 3.1: Allocate $9,500 for support of Design Projects that will foster a higher education network in New Jersey and give design and hands-on experience to students.
- Objective 3.2: Allocate $38,000 for a Co-Op Industry University Program for students to receive co-op experience by working half a year in industry and half a year attending college.
- Objective 3.3: $20,000 will be allocated for the Aerospace Course Development Program, for N.J. faculty to develop new college courses in aerospace and teach them.
- Objective 3.4: $27,000 will be allocated for programs for Minority Student Development for Graduate Study.
- Objective 3.5: $22,000 will be allocated to support teams participating in Bridge Programs, such as the NYCRI Summer Institute. Each team will have a high school student, a high school STEM teacher, and an undergraduate or graduate college student, to conduct research at a New Jersey University.
- Objective 3.6: $10,000 will be allocated to the two New Jersey college faculty members who participated in the Rock On Workshop, to support these faculty members as they develop sounding rocket programs at their institutions.

Goal 4: Keeping in mind New Jersey's chronic shortage for science teachers and the state astronomy standards imposed on the K-12 curriculum statewide, to inspire, motivate, and improve the quality of New Jersey's math and science teachers by means of teacher training, educational outreach and professional development programs.

- Objective 4.1: Allocate $14,000 to support science Teacher Training Programs taught at RVCC (Raritan Valley Community College).
- Objective 4.2: Allocate $11,000 to Other Science Teacher Training Programs statewide.
- Objective 4.3: Do not allocate any funds to K-12 educator training programs at the Buehler Challenger Center.
- Objective 4.4: At least 80% of participating teachers will respond to our survey upon completion of their training programs. At least 75% of participating teachers will have used their training within a year of receiving their training and 90% will have used their training within two years of receiving their training (PART Measure).

Goal 5: To stimulate a broad interest in, and an understanding of, various scientific and technical disciplines of interest to NASA by supporting informal education STEM programs. Promote awareness of NASA's mission and its contribution to society.

- Objective 5.1: $4,000 will be allocated for support of the Traveling Planetarium project of the Plainsboro Public Library.
- Objective 5.2: $0 is allocated for informal education lectures will be given to the general public or at meetings of science groups by faculty members in NJSGC member institutions.
- Objective 5.3: $1,000 will be allocated to support the activities of the NASA Resource Center at Georgian Court University.
- Objective 5.4: Up to $4,600 will be allocated to fund new informal education programs.

Goal 6: NJSGC will be a proactive and diverse organization that is run efficiently and effectively. All activities will continuously be monitored and new initiatives will be pursued.

- Objective 6.1: NJSGC will have an effective, efficient and frugal office which continuously monitors itself, and whose documents are up to date. NJSGC will have well-defined operational policies and procedures for all of its activities.
- Objective 6.2: NJSGC will have a set of active affiliates who contribute to the programs of the consortium by serving on committees, publicizing NJSGC activities at their organizations, and by recruiting students and faculty to apply for our awards.
- Objective 6.3: NJSGC will actively seek alliances with aerospace and educational organizations in New Jersey, with NASA centers and with New Jersey elected officials.
- Objective 6.4: NJSGC will advertise its programs statewide and administer its programs competitively and fairly. Applicants will be evaluated without bias or any artificial criteria.
- Objective 6.5: NJSGC will track all its award recipients to monitor their progress and to evaluate the effectiveness and success of its programs. We will administer satisfaction surveys.
- Objective 6.6: NJSGC will continuously monitor its offerings and modify or discontinue programs that are not effective, have run their course or have not met our expectations.

Goal 7: NJSGC will strive for diversity in all of its programs and will make its awards in a way that reflects the diversity of New Jersey. NJSGC will inspire members of the minority community to choose careers in STEM and will work with minority serving institutions in New Jersey and other states, supporting them with funding, fellowships and internships.

- Objective 7.1: Based on national statistics on minority enrollment in N.J. colleges, at least 28% of all student awards and other direct support will be awarded to students from underrepresented minorities. At least 45% of all award recipients will be female students and faculty.
- Objective 7.2: NJSGC will actively engage and support minority serving institutions in New Jersey and in nearby states, universities with sizable minority populations, such as Rutgers Newark and Rutgers Camden, as well as community colleges.

PROGRAM/PROJECT BENEFIT TO OUTCOME (1,2, OR 3)

Outcome 1 - Educate and Employ: In FY 2010, NJSGC began a new program of Travel Support for Conferences to subsidize students (undergraduate and graduate) and faculty in New Jersey Universities to attend scientific conferences and technical meetings. This program has been very popular (six supported students, classified by us as direct supported but not significant awards).

Outcome 1 - Educate and Employ: Ms. Regina Payne was hosted by NJ Space Grant throughout her college career. She participated in the ESMD Program, the Academic Year Fellowship Program and twice in the Co-Op program with Hamilton Sundstrand. In June 2011 she received and accepted a job offer by Hamilton Sundstrand.

Outcome 1 - Educate and Employ: We have responded to affiliate requests to tailor our research programs with their needs. For example, we now support research clusters. Some faculty members have requested that the funding go to students in their departments' clustered research programs instead of summer salary for themselves in the mini research grants program. We have accepted their requests and in the summer of 2011 we are funding 13 students in three research clusters (Rowan, Coll. of NJ, and NJ Inst. of Technology). We are also providing summer salary for three junior faculty members.

Outcome 1 - Educate and Employ: In April 2011, NJSGC academic year fellows participated in poster presentations at a NJSGC gathering. To our knowledge, this was the first time in New Jersey history that over 40 college students from across the state and from different STEM disciplines got together, presented their research, met each other and developed contacts. This student poster presentation, which was a tremendous success, will become a yearly activity. We have a similar activity scheduled for August 4, 2011, for our summer fellows and research cluster students.

Outcome 2 - Engage and Educate: Mr. Michael Creech was engaged by the NYCRI program during his junior year at Freehold High Tech. During his senior year, he was again selected to participate in the NYCRI summer program and finally during 2011 after completing his freshman year at Stevens he is again participating in the NYCRI program while mentoring younger students.

Outcome 2 - Engage and Educate: The Rock-On program further engaged six students in hands on construction of a sounding rocket payload during the summer of 2011. Ethan Hayon, Mike Giglia, Sean Watts, Mark Siembab, Bob Hopkins and Jenny Jean formed two teams to construct, assemble and launch experiments to measure pressure, temperature, radiation and position. They quoted "we learned more in one week during this program than in a whole year of attending classes."

PROGRAM ACCOMPLISHMENTS

Outcome 1 Activities

Over 80% of NJSGC's programmatic expenditures are for Outcome 1 activities.

In the area of fellowships, we supported four fellowship programs: Undergraduate Academic Year Fellowships (32 at $2,000 each), Undergraduate Summer Fellowships (10 at $6,000 each), Graduate Fellowships (5 at $7,500 each), and NASA Academy/Centers and the LARSS program (4 at $6,000 - 7,000 each). While fellowship programs do not require match, we have asked the departments of the students receiving graduate fellowships to provide one-to-one match. This is because the fellowship amount we can allocate, $7,500, is much lower than the cost of graduate education.
NJSGC considers all fellowship recipients as direct funded and tracks them. In FY 2010, we have supported more academic year fellowships than expected, because we used unspent funds from FY 2009.

In the research area, we introduced a new program on travel support for NJ students to attend conferences and to present papers. We sent six students to conferences. As described in subsequent sections, we supported three faculty and 13 students in our faculty mini grant program. These two research programs have been very popular. Less popular was our Industry-University research program. We only had one applicant and we used unspent funds from FY2009 to support that project. Hence, we have two unused awards in 2010. Because of this, we will not be requesting funding for the IUR program in FY 2011.

The number of direct-funded students is over twice the numbers last year and the funding has been distributed to more institutions and more evenly throughout the state. Our analysis of geographic diversity shows that we have reached every congressional district in the state with at least three direct-funded students.

Among our Outcome 1 programs in higher education, we supported the following:

- The Senior or Multi-Year Design Project Program provided support to eight design projects in New Jersey universities for project supplies.
- The NJSGC Co-Op Program integrates learning with hands-on development work at a NASA contractor or other aerospace company. Traditionally designed for undergraduate students, we now give this award to graduate students as well. We supported seven students in this program in FY 2010, but paid for six of them using unspent funds from FY 2009. One student in this program has already accepted an offer from an aerospace contractor.
- The Course Development Program awards grants to higher education institutions to develop new STEM courses, especially related to astronomy, aeronautics and space sciences. We overestimated the need for (and desire to develop) new STEM courses and used some of the funding for reviving existing courses, as well. This year, because of the contacts we have established with EOF offices at Rutgers (EOF described in more detail in the NASA Education Priorities section), we supported development of summer courses and curricula for incoming first-year science and engineering minority students, along with development of new STEM courses at Rowan University and Rutgers-Camden.
- The Minority Student Support for Graduate Study Program currently supports the Research in Science and Engineering (RiSE) program, run by the Graduate School, New Brunswick, offices of Rutgers University. Through a focused summer program, RiSE recruits, trains and encourages promising underrepresented, disadvantaged and underserved undergraduate students (minority, female) in STEM disciplines, and prepares them for graduate school and to pursue research careers. The program supported four students in FY2010.
- We have increased our bridge programs that provide a link between high school and college, college to graduate school, as well as among colleges in New Jersey. This year, we have a student from Rowan and two students from Ramapo College doing summer research at the N.J. Institute of Technology. Such efforts are increasing contact among New Jersey universities and we expect them to lead to to joint programs, as well as additional opportunities for our students.

Outcome 2 Activities

Our Outcome 2 activities consist of Higher Education and Pre-College Programs. In higher education, we continued with the New York City Research Initiative (NYCRI) program, which brings together high school students, college students and high school teachers in a hands-on research environment during the summer. While this program is run out of the NYCRI offices in New York City, the participants that we sponsor are New Jersey students. We are supporting three groups of students in FY2010 for a total of nine individuals.

During 2009 NJSGC participated in the Rock-On program for the first time by sending Joseph Miles, NJSGC's Space Grant Coordinator, as a scout to evaluate the program. Mr. Miles determined that it is a multi-year effort to establish the program in New Jersey with

teams progressing from Rock-On to Rock-Sat and then possibly to Rock-Sat-X (for graduate students). In Summer of 2011, six New Jersey students attended the first phase of the program, Rock-On. We plan to send these students to Rock-Sat next year.
We have increased our bridge programs that provide a link between high school and college, college to graduate school, as well as summer experiences for entering college freshmen in New Jersey universities. We have used FY2010 funding, as well as unspent course development funds and unspent administrative funds (for various reasons, both Aiesha Long and Joseph Miles got on NJSGC payroll late in FY 2009) to fund two outcome 2 bridge activities:

- At Liberty Science Center, the Partners in Science program inspires students to pursue careers in science by providing them direct, hands-on, interactive research experiences with professionals in scientific fields. This program pairs 11th and 12th graders with scientists and engineers who serve as one-on-one mentors. We are supporting 10 students in the summer of 2011.
- The GIST (Girls Involved in Science and Technology) program at Georgian Court University runs a summer science program for girls in the Lakewood, N.J. school district. Lakewood middle and high school students are disproportionately minority students. The emphasis in this one week program is hands-on, inquiry-based learning in the areas of biology, chemistry, physics, ecology, mathematics and computer sciences. Over 25 middle and high school girls are participating this summer, with followup and mentoring by GCU students and faculty until they graduate.

We expanded our teacher training activities. In FY 2010, besides the New Jersey Astronomy Center for Education at Raritan Valley Community College, we are also funding

- The NASTAR Center, which provides astronaut training in a specially designed flight simulator. We are using unspent pre-college funds from FY 2009 to support the NASTAR Center program and 15 teachers. More details on the NASTAR Center is given in the non-affiliates section.
- Hanover Township public school system, for five of their teachers to attend reduced gravity flight training at NASA Johnson Space Center.
- Pre-service science teacher training program, jointly run by Rutgers Department of Education and Rutgers School of Engineering. Over 10 students will be supported in this program, which will run in Fall 2010.

Outcome 3 Activities

Our informal education program has seen a lot of changes in the last 24 months. In FY 2009, we basically eliminated most of our previous informal education programs, as we did not observe them having substantial impact. In FY 2010, our informal education programs have concentrated on planetarium support. We have supported the Edelman Planetarium at Rowan University and the planetarium at Raritan Valley Community College. Both planetariums provide formal education in astronomy to students, and to the public on a weekly basis as public planetarium shows.

A third informal education program is in the form of a small continuing grant to the NASA Educator Resource Center at Georgian Court University to offer a summer workshop. This program is evolving from an informal education program to a pre-college program. In future years, we will be classifying it as a pre-college program as a lunar certification workshop, which provides teachers with lunar / meteorite discs and other educational material for classroom use.

NASA 2010 Education Priorities

Authentic, hands-on student experiences in science and engineering disciplines – the incorporation of active participation by students in hands-on learning or practice with experiences rooted in NASA-related, STEM-focused questions and issues; the incorporation of real-life problem-solving and needs as the context for activities.
We have supported research clusters, fellowships, and we have sent six students to RockOn. Most of our direct funded students receive this type of experience.

Engage middle school teachers in hands-on curriculum enhancement capabilities through exposure to NASA scientific and technical expertise. Capabilities for teachers to provide authentic, hands-on middle school student experiences in science and engineering disciplines (see above).
We sent five Hanover Township teachers to NASA Johnson Center for microgravity training. About 40% of the attendees of our teacher training programs are middle school teachers.

Summer opportunities for secondary students on college campuses with the objective of increased enrollment in STEM disciplines or interest in STEM careers.
No funds in original FY 2010 base and augmentation programs. However, because our administrative expenses in FY2010 are less than anticipated, we have used some of this excess to support a program for middle school students at Georgian Court University. Also, we have funds allocated for this program in our Consortium Development Grant for a program for high school female students to become familiar with engineering. We are also working on developing a team to submit a Summer of Innovation proposal in 2012.

Community Colleges – develop new relationships as well as sustain and strengthen existing institutional relationships with community colleges.
We developed a database of STEM educators in all of New Jersey's community colleges and sent letters to all of them. The response, while not substantial, is promising and it yielded some contacts. We made telephone contact with Mercer County Community College and County College of Morris. We have been in communications with Raritan Valley Community College. We asked in congressional delegation visits help in reaching Union County College and Hudson County Community College. We are already working with and funding Essex County College and Middlesex County College with fellowships and course development grants. We also have a new program with community colleges in our Consortium Development Grant, which we plan to run in Fall 2011.

Aeronautics research – research in traditional aeronautics disciplines; research in areas that are appropriate to NASA's unique capabilities; directly address the fundamental research needs of the Next Generation Air Transportation System (NextGen).
No funds allocated in FY2010, but we are working with the FAA outreach offices to develop educational programs in aeronautics and air traffic control systems.

Environmental Science and Global Climate Change – research and activities to better understand Earth's environments.
No funds allocated in FY 2010, but we have partnered with New Jersey City University and submitted a proposal to NASA on climate change research.

Diversity of institutions, faculty, and student participants.
For significant funds awarded to students and tracked, NJSGC awarded 25% of its direct-funded awards to underrepresented minorities and 36% to females. This record is slightly lower than our targets of 28% for underrepresented minorities and 45% for females.
We have continued with supporting the RiSE program at Rutgers, where minority college students from across the country are brought to the Rutgers campus and given the opportunity to conduct research, as well as receive mentoring and tutoring about graduate school.
We have done reasonably well with attracting minority and female faculty to our research grants, 25% in both cases.
We have found out that we budgeted more funds than needed for aerospace and STEM course development. We have used some of our unused course development funds to develop and fund summer classes for minority students who are entering college. We are supporting course development and teaching courses (Educational Opportunity Fund, a program initiated in New Jersey about 10 years ago to help minority students successful in college) by EOF at Rutgers University.
We have expanded our relationship with New Jersey City University. NJCU is the one of two four year academic institutions that qualifies as minority-serving and they have a relatively large science program. (The other qualifying institution is St. Peter's College, with whom we have recently made contact. They have a very small science program, giving less than 60 STEM degrees per year.) NJCU is eligible to respond to RFPs intended for minority serving institutions. We partnered with them and responded to the NASA RFP for Global Climate Change Education; previously our colleagues at NJCU were unaware of the RFP. We also engaged the Liberty Science Center to participate in the proposal. Unfortunately, our proposal was not funded.
NJSGC has made increased efforts to also have geographic diversity in its programs. We have engaged Rowan University, the only major NJ university in southern New Jersey. They have become very active partners. Also, we have made sure that each congressional district is represented among our award recipients. There are at least three direct funded students from each congressional district.

Enhance the capacity of institutions to support innovative research infrastructure activities to enable early career faculty to focus their research toward NASA priorities.

Our Industry-University Research program and faculty mini grants program provide support for junior faculty in this area. In FY 2010, we have supported four junior faculty members with these grants.

PROGRAM CONTRIBUTIONS TO PART MEASURES

- Longitudinal Tracking: In FY 2010, total awards for the base and augmentation grants was 153, direct-funded 90. 51 in fellowships, 19 in higher education, and 20 in research. 22 of the direct funded students were minorities. In FY2010 we gave 84 significant awards, which we track. Of these students 79 direct funded students are continuing their studies in STEM, 4 have graduated and are looking for employment and one has graduated and found a job in the aerospace industry.

- Course Development: Our FY2010 proposal budgeted five grants for course development. We made three awards that develop courses in STEM, all to four-year colleges. We also supported EOF courses at two EOF offices at Rutgers. We expect to fund two or three course development projects in the future.

- Matching Funds: All of our programs, except some fellowships, require match. NJSGC has been very proactive about match and has been rejecting proposals whose match we find inadequate or not sincere. 100% of our non-fellowship funds are leveraged, including administrative expenses by match. For example, the lead institution, Rutgers University, charges us half their regular overhead, matching our overhead expenditures.

- Minority-Serving Institutions: NJSGC has identified Essex County College as a well-run organization with which we have begun to work after a campus visit urging the summer of 2010. We have awarded them three academic year fellowships. The New Jersey City University is listed as an institution with "High Hispanic Enrollment." NJSGC invited them to membership in FY2009 and have funded three fellowships there in FY 2010. Recently, we collaborated with Dr. John Grew from NJCU, who submitted a proposal with NJSGC and Liberty Science Center in the area of "Global Climate Change Education." We have also established contact with the only other four-year minority-serving institution in New Jersey, St. Peter's College. We plan to support some fellowships there in the Fall 2011.

IMPROVEMENTS MADE IN THE PAST YEAR

We came to the conclusion that promoting Space Grant programs via surface mail and by email was only 25% successful. The NJSGC team decided to make periodic visits to targeted institutions to promote NJSGC programs. That effort is proving to be successful.

We visited over 10 institutions, affiliates, as well as non-affiliates to publicize our programs in the last 12 months.

We now have much better reach to students in our affiliate institutions as well as at other institutions and science centers throughout New Jersey. We are funding more programs in more institutions. Our programs have much better geographic diversity. Also, because of our site visits and personal contacts, we are able to assess the needs and interests of our affiliates a lot better and we are tailoring our funding and programs to better serve the needs of our affiliates.

An immediate outcome of these efforts can be seen in the number of students, faculty and other projects that we have funded. Whereas in FY 2009 we direct funded 30 students, in FY 2010 we direct funded 86 through the base and augmentation funds. If we add the direct funded students from the Consortium Development Competition Grant, we direct funded over 90 students in 2010.

We have expanded our network by improved relations with community colleges and we are also supporting some non-affiliates, like Liberty Science Center and Ramapo College.

NJSGC is becoming more active in the national as well as the regional Space Grant network. In November 2011, NJSCG will host the Mid-Atlantic Regional Meeting at Princeton, N.J. Also, the director of NJSGC is now the chair of the Aeronautics Working Group. We have increased our involvement with Rock-On.

The NJSGC office is running much more smoothly, as we have improved turnaround time for subcontracts that we give our affiliates. Invoices and purchase orders are processed much more rapidly than in the past, as well as student stipends.

NJSGC is also spending its funding more efficiently. Over 95% of our FY 2009 funding and 80% of our FY2010 funding is encumbered. We are also continuously evaluating the rate at which our programs are running and reducing funding requests for programs that have not been popular or for which we have unspent funds.

While we still are not at the level of the very fine Space Grant consortia that we view as our role models, we have made tremendous advances in the past two years and we can safely say that we have become a smoothly functioning, active and diverse consortium. There always is room to improve and we work relentlessly to do that. We are ready to submit a budget to the National Space Grant Office for FY 2011. We are ready to compete for designated state status or for any other competition announced by the Space Grant Office.

PROGRAM PARTNERS AND ROLE OF PARTNERS IN PROJECT EXECUTION

We describe this section by first talking about the affiliates and then non-affiliates with which we have improved relationships. In FY 2010 NJSGC made significant attempts to spread our programs statewide and to involve more institutions and organizations with our programs.

Affiliate Partners:

Three-fourths of NJSGC members are active or very active partners of the consortium, and the remaining quarter are mildly active or engaged. It has been our experience that affiliate activity peaks and wanes over the years; many times having nothing to do with NJSGC itself. A lot depends on the campus representative. The list below gives our evaluation of NJSGC affiliate institutions as very active, active, not very active and inactive, as well as their key characteristics.

- Astronomy Education Center at Raritan Valley Community College: Very active, key player in our pre-college efforts, also partners in responding to NASA solicitations, such as Summer of Innovation. This organization is the teacher training arm of Raritan Valley Community College, and they operate relatively independently of RVCC.
- Georgian Court University: Active, they have increased NJSGC involvement. We have funded them with academic year fellowships, as well as bridge programs for higher education. A Jesuit institution with a small graduate program in teacher education, whose undergraduate college is all female.
- Goddard Institute of Space Sciences: Active. Most of their activities are NASA funded. Their main affiliation with NJSGC is the New York City Research Initiative program.
- New Jersey City University: Very active. As a designated minority-serving institution, we rely on them for minority student support, as well as responding to NASA solicitations. Public institution with a primarily undergraduate enrollment, with small graduate programs.
- New Jersey Institute of Technology: Active, we have funded research programs and bridge programs for graduate study. This public university provides undergraduate and graduate education mostly on STEM topics.
- Plainsboro Public Library: Not very active. We funded staff support for a traveling planetarium. Their director has retired and our affiliation with them will soon come to an end.
- Princeton University: Active, we have funded research programs with them and sent their students to NASA Academies. Very highly ranked private university, strong in the liberal arts and in STEM.
- Rowan University: Very active, they are involved in course development, research, fellowships, and research clusters. They have become, in a short time, one of our most active affiliates. Originally a teachers college, they have become a comprehensive university with bachelors and masters programs.
- Rutgers: Very active. Lead institution, active in all areas. We have been working on increasing programs with Rutgers Newark and Rutgers Camden. Flagship state university in New Jersey with over 55,000 students.

- Seton Hall University: Not very active. They recently rejoined and we fund fellowship students there. Catholic university with a primarily liberal arts undergraduate enrollment.
- Stevens Institute of Technology: Very active. As former lead institution, they are active in all aspects of the consortium. Private university that provides undergraduate and graduate education in STEM topics.
- The College of New Jersey: Very active. Though a new affiliate, they have become active in research and higher education programs. Public college, with primarily undergraduate programs. Most programs are in the liberal arts and teacher education.
- University of Medicine and Dentistry of NJ: Inactive. We are working on improving our relations with them. The flagship medical school in New Jersey.

Non-Affiliate Partners:

Liberty Science Center: The NJSGC team visited Liberty Science Center (LSC) in Jersey City, N.J., and presented NJSGC programs to them. At LSC's request, NJSGC crafted a new bridge program during the summer of 2011. This grant supports the cost of ten students who demonstrate a high aptitude in science and/or mathematics, and have an interest in pursuing a science-related career, through the Science Center's Partners in Science program. The Partners in Science program inspires high school students to pursue careers in science. The program pairs 11^{th} and 12^{th} graders with scientists and engineers who serve as one-on-one mentors during the summer and throughout the academic year that follows.

Essex County College and Newark Public Library: NJSGC is in the process of supporting an integrated course development program with these two institutions. It is expected that a course in astronomy will be developed at Essex County Community College and be taught at the Newark Public Library since they are in very close proximity-blocks away. The Newark Public Library has a planetarium and is situated in a high minority area of the state. We have given Essex County College academic year fellowships.

Middlesex County College: NJSGC approved a subcontract for their astronomy course development. We have received the course outline and the course will be taught this academic year.

Mercer County College: We have started a discussion on what we can fund there that would benefit their students.

NASTAR: The NASTAR Center is the first FAA accredited facility able to meet the training requirements for commercial human space flight, both suborbital and orbital. It is recognized as the leader in the development and delivery of training for the commercial space industry and is uniquely positioned to enable research to improve the health and safety of humans in extreme environments. They use ETC's Space Training Simulator (STS-400), the most advanced flight simulation tool on the planet. NJSCG has begun a

K-12 science teacher training program with NASTAR. NASTAR is an affiliate of Pennsylvania Space Grant Consortium.

FAA: As discussed earlier, we have initiated discussions with the Federal Aviation Administration, and especially with the FAA Technical Center in Atlantic City, N.J., to jointly develop some programs. We have met with the outreach director at the FAA Technical Center and with the outreach director at JFK Airport. We have invited them to attend the 2011 Regional SG Directors meeting.

Ramapo College: We had no interaction with Ramapo College, a small liberal arts school in North Jersey, in the past. However, our affiliate New Jersey Institute of Technology has had good relations with them. NJIT has been developing a bridge program with Ramapo College, where undergraduate physics students at Ramapo begin conducting research at NJIT during the summer. These students then apply for graduate study at NJIT (Ramapo does not have a graduate program in physics). NJSGC is supporting two students in this program in the summer of 2011. We also have met with a professor from Ramapo College and we plan to make a site visit there in the Fall.